

Issue:
FALL 2010 - WINTER 2011



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Photo: Snow on joshua tree (Yucca brevifolia) by Jeff Yost

Red Rock
CANYON

Keystone Visitor Guide

NATIONAL CONSERVATION AREA

Mojave Max

WELCOME TO MY HABITAT AT RED ROCK CANYON NATIONAL CONSERVATION AREA! I AM MOJAVE MAX, “SPOKESTORTOISE” FOR ALL THE WILD DESERT TORTOISES, A THREATENED SPECIES IN THE MOJAVE DESERT. I LIVE HERE ALONG WITH SEVEN FEMALE NEIGHBORS.

I am well-adapted to the harsh desert conditions. I am an herbivore and can also store water in my bladder for up to a year. As a reptile, I spend 95 percent of my life living in a burrow (sometimes 10-12 burrows) due to the temperature extremes in the desert. We tortoises can live to be 60-80 years old in the wild and up to 100 years old in a habitat.

The Mojave Max Education Program began the year I was born (1989) as a conservation effort to provide public information and education for the Clark County Desert Conservation Program. The program encompasses activities such as the emergence contest - when I will wake up in the spring after brumating (hibernating), classroom programs (reaching more than 100,000 students over the years), teacher education workshops and volunteer training programs. The Mojave Max Emergence Contest is the central



Photo: Mojave Max (Gopherus agassizii) lives in his habitat behind the visitor center

element of the education program and all activities support participation in the contest.

Now that the weather is beginning to change to cooler temperatures, I will begin my approximate five-month brumation in my burrow. Though I will be asleep, I still hope you will come and visit my habitat in the back of the visitor center to learn more about my species

at the tortoise exhibit. I also hope that you will come back in the spring to visit the girls and me as we emerge into the springtime warmth!

As I settle down for my long winter’s nap, please enjoy the beauty of the fall and winter seasons here at Red Rock Canyon. See you in the spring!



License Plate

You’ve enjoyed your visit to Red Rock and now you may be looking for a take-home memory of the National Conservation Area. If you are a Nevada resident, you have an opportunity to be reminded of your adventure by purchasing a Red Rock Canyon license plate.

The process is easy: go to the nearest Nevada Department of Motor Vehicles with your registration, ID and your old license plates. The charge for the new plate is \$61 with a one-time processing fee of \$5. Your normal renewal period will remain the same and plate renewals will be \$30.

Friends of Red Rock Canyon receives \$25 in revenue for the first year per plate and \$20 for renewals for these stylish license plates. All proceeds from the license sales will be used to support programs and services at Red Rock Canyon.

Hours of Operation

Visitor Center	8 a.m. to 4:30 p.m.
13-Mile Scenic Drive	
OCTOBER	6 a.m. to 7 p.m.
NOVEMBER - FEBRUARY	6 a.m. to 5 p.m.
MARCH	6 a.m. to 7 p.m.
APRIL - SEPTEMBER	6 a.m. to 8 p.m.
Red Rock Overlook on State Route 159 and Red Spring	
THROUGH FEBRUARY	6 a.m. to 5 p.m.
MARCH	6 a.m. to 7 p.m.



Photo: Fire in the Sky by Janice Phillips

a public land administered by the

bureau of land management

A man wearing a white t-shirt, khaki shorts, a blue baseball cap, and yellow-tinted sunglasses is rappelling down a rock face. He is holding a rope and has a large coil of green rope on his back. The rock face is light-colored and textured.

- 10/6/10 10:53:13 PM

Photo: Red Rock Sunrise
by Konkrit Thusanapant

Las Vegas Valley Land Sales Fund Improvements at Red Rock

IN 1998, THE SOUTHERN NEVADA PUBLIC LAND MANAGEMENT ACT WAS PASSED.

This innovative act created a disposal boundary in the Las Vegas Valley that enabled the Bureau of Land Management to dispose of public lands. Funds generated from these sales are used to enhance the quality of life in Southern Nevada for residents and visitors by improving parks, trails and natural areas, supporting conservation initiatives, improving federally-managed facilities, creating habitat conservation plans and acquiring environmentally sensitive lands in Nevada in addition to providing funding for state education and the Southern Nevada Water Authority.

Red Rock Canyon National Conservation Area and its visitors has been the beneficiary of these funds on nine projects.

SIX PROJECTS AT RED ROCK HAVE BEEN COMPLETED:

- RED ROCK FIRE STATION
- UPGRADING EXHIBITS AT THE VISITOR CENTER
- RED SPRING RESTORATION
- FENCING ALONG STATE ROUTE 159 TO KEEP WILD HORSES AND BURROS OFF THE ROADWAY
- ADJUSTING THE COTTONWOOD VALLEY TRAILS NETWORK
- CREATING A NEW VISITOR CENTER AT RED ROCK

PROJECTS UNDERWAY INCLUDE:

- EXPANDING AND PROVIDING UTILITIES TO THE RED ROCK CAMPGROUND
- CREATING AN EDUCATIONAL FACILITY FOR SCHOOL-AGED CHILDREN
- UPGRADING THE SCENIC DRIVE AND PAVING A DIRT ROAD

Red Rock Campground

AS THE SUMMER DREW TO A CLOSE, WORK WAS WRAPPING UP ON IMPROVEMENTS AT RED ROCK CANYON NATIONAL CONSERVATION AREA'S DEVELOPED CAMPGROUND – RED ROCK CAMPGROUND.

The improvements, funded by the Southern Nevada Public Land Management Act, included shade structures for half the individual camp sites and all group camp sites as well as installation of one double vault toilet for the group site area. The improvements are aimed at improving visitor satisfaction and experience.

Red Rock Campground is located within Red Rock Canyon National Conservation Area approximately two miles east of the visitor center on State Route 159 (West Charleston Boulevard) and is the only developed campground within the conservation area.

The campground has been in service since February 1999 and an estimated 500,000 people have visited the Red Rock Campground since its opening.



Fire Ecology in Red Rock Canyon

BURNED LANDSCAPES AREN'T BEAUTIFUL, BUT FIRE IS A PART OF THE NATURAL WORLD, JUST LIKE THE WIND, THE RAIN AND OTHER NATURAL FORCES.

In fact, wildland fire is an essential feature of ecosystems that regenerates some plant communities to provide better forage for wildlife over time. Some plants and animals are adapted to fire and benefit from the changes it brings, but wildland fire is not helpful to all wildlife and plant communities. The Mojave Desert is one ecosystem that is not generally benefited by wildland fire.

Several wildland fires have burned in Red Rock Canyon over the past years, destroying habitat for Mojave Desert plants and wildlife by removing nutrient rich vegetation and shade. Mojave Desert lands burned by wildland fire are more vulnerable to new wildland fires because they become overgrown with invasive annual grasses. Native plants must compete with the invasive annual grasses for water, soil nutrients and sunlight. Invasive annual grasses regenerate more quickly than native



vegetation, creating the potential for new wildland fires and decreasing the ability of native vegetation to become dominate in the plant community.

Rehabilitation efforts including seed and planting native vegetation are ongoing. In addition, monitoring regrowth and weed treatments will continue.

VISITORS TO RED ROCK CANYON CAN HELP REDUCE THE SPREAD OF NON-NATIVE ANNUAL GRASSES BY FOLLOWING A FEW GUIDELINES FOR RECREATION WITHIN BURNED AREAS:

- Stay on the designated roads and trails. Seeds of invasive grasses and weeds can “catch a ride” in your shoes, socks and car tires. Staying on trails allows the BLM to monitor invasive grasses and weeds and apply treatment to protect the native vegetation.
- Stay out of burned areas. The soil is extremely fragile after a fire has occurred. The roots of the vegetation have lost their integrity and hillsides are more susceptible to erosion. The desert crust that has formed before the fire will slowly recover unless the crust is broken by foot or vehicle traffic.

Photo: Serenity
by Janice Phillips



Most of these public lands are located in 12 western states. The agency manages a wide variety of resources on these lands including energy and minerals; timber; wild horse and burro populations; fish and wildlife habitat; wilderness areas; and archaeological, paleontological and historical sites.

Vast and varied, these lands offer outdoor enthusiasts unparalleled recreational opportunities and for others, these special places are a sanctuary for rest and solitude. As managers and stewards, the mission of the Bureau of Land Management is to sustain the health, diversity and productivity of these public lands for the

Bureau of Land Management

THE BUREAU OF LAND MANAGEMENT (BLM), AN AGENCY WITHIN THE U.S. DEPARTMENT OF THE INTERIOR, ADMINISTERS APPROXIMATELY ONE-EIGHTH OF THE LAND IN THE UNITED STATES.

use and enjoyment of present and future generations. **U.S. land-management program in the last 50 years,**

Red Rock Canyon National Conservation Area is a part of the BLM's National Landscape Conservation System: a diverse program that incorporates National Scenic and Historic Trails, Wild and Scenic Rivers, Wilderness Areas, and National Monuments and Conservation Areas, to name a few. The mission of the Conservation System is to conserve, protect and restore nationally significant landscapes that have outstanding cultural, ecological and scientific values for present and future generations of Americans. This 27 million acre Conservation System is said to be the most innovative

U.S. land-management program in the last 50 years, joining together the crown jewels of the BLM's cultural, natural and scientific assets.

FOR INFORMATION ON THESE AREAS AND A COMPLETE LIST OF NATIONAL CONSERVATION AREAS AND TO LEARN MORE ABOUT BLM MANAGED PUBLIC LAND, VISIT OUR WEBSITE AT: WWW.BLM.GOV. TO LEARN MORE ABOUT RED ROCK CANYON, VISIT OUR WEBSITE AT: WWW.NV.BLM.GOV/REDROCKCANYON.

FRIENDS OF RED ROCK CANYON – Making a Difference for 25 years

THE MISSION OF THE FRIENDS OF RED ROCK CANYON IS THE PROTECTION AND ENRICHMENT OF RED ROCK CANYON NATIONAL CONSERVATION AREA AND THE PUBLIC LANDS OF SOUTHERN NEVADA.

Friends, a volunteer-driven membership organization, was founded 25 years ago and has been an active partner of the Bureau of Land Management since 1984. ***Friends*** is a non-profit 501 (3)(c) organization with members in twenty three states and four countries.

Through the continuing commitment of members and volunteers, *Friends* this past year contributed more than 18,100 volunteer hours and more than \$105,000 in financial support which directly benefits Red Rock Canyon National Conservation Area. Our volunteer members are involved in a wide variety of important

activities to protect and preserve Red Rock Canyon such as: graffiti removal, trails improvement and restoration, native plant propagation and elimination of invasive plant species, volunteer event management, providing visitor information and personal contact as well as trash removal.

Friends members and volunteers are happy to partner with the Bureau of Land Management to assure your visit is safe and educational, and that you leave with a sincere appreciation for this unique National Conservation Area.

**TO JOIN OR LEARN MORE ABOUT FRIENDS OF RED
ROCK CANYON VISIT
WWW.FRIENDSOFREDROCKCANYON.ORG**



Red Rock Canyon Interpretive Association

THE MISSION OF RED ROCK CANYON INTERPRETIVE ASSOCIATION (THE INTERPRETIVE ASSOCIATION) IS TO ENHANCE THE RECREATIONAL, EDUCATIONAL AND INTERPRETIVE PROGRAMS OF THE BUREAU OF LAND MANAGEMENT (BLM) BY PROVIDING MATERIALS AND SERVICES THAT PROMOTE AN UNDERSTANDING AND APPRECIATION OF THE NATURAL HISTORY, CULTURAL HISTORY, AND SCIENCES OF RED ROCK CANYON NATIONAL CONSERVATION AREA.

The Interpretive Association was founded in 1988, at the request of the BLM, to provide fund-raising capabilities for the support of outreach programs. The organization began with two employees operating a tiny retail space at the visitor center. Today, The Interpretive Association has more than 50 employees serving three federal agencies.

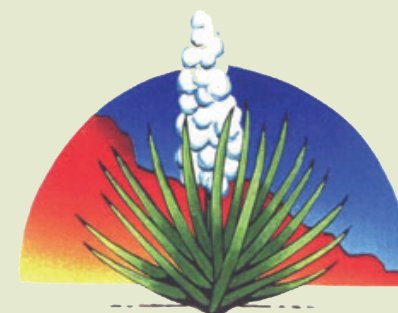
Leading interpretive hikes and programs, managing the scenic drive wayside sign project, operating the Red Rock Canyon Gift and Book Store, administering the fee

collection program and offering the highly successful “Desert Fossils” interpretive program for local seniors are some of the services provided by The Interpretive Association.

The Interpretive Association continues to increase its commitment to the BLM by facilitating special projects such as Red Springs restoration and creating new exhibits for the visitor center. The Interpretive Association also coordinates the award winning Mojave Max desert tortoise education program.

**TO LEARN MORE ABOUT RED ROCK CANYON
INTERPRETIVE ASSOCIATION VISIT OUR WEBSITE:
WWW.REDROCKCANYONLY.ORG.**

The Interpretive Association is a nonprofit 501(c)(3) corporation.



Why are the Rocks Red?

More than 600 million years ago, the land that would become Red Rock Canyon was the bottom of a deep ocean basin. Over time, changing land and sea levels resulted in the deposition of both ocean and continental sediments that became the gray limestone found at Red Rock Canyon today. About 180 million years ago, a giant sand dune field formed over what became the Western United States. Powerful winds shifted the sands back and forth, forming angled lines in the sand. Over time, the sheer weight of the layers of sand compressed into stone. This formation, locally known as Aztec Sandstone, is quite hard and forms the cliffs of Red Rock Canyon. Exposure to the elements caused some of the iron-bearing minerals to oxidize. This oxidizing process can be more easily thought of as a "rusting of the sand," which resulted in red, orange and tan colored rocks.

Photo: Calico Basin
by Javier Sanchez

Petroglyphs and Pictographs

AS YOU HIKE THE TRAILS AND EXPLORE RED ROCK CANYON, YOU MAY SEE IMAGES CARVED OR PAINTED ON THE CANYON WALLS OR ON BOULDERS ALONG THE ESCARPMENT. THESE IMAGES ARE CALLED PETROGLYPHS AND PICTOGRAPHS AND SOME OF THEM MAY BE THOUSANDS OF YEARS OLD. THE PRIMARY DIFFERENCE BETWEEN THE TYPES, AS DESCRIBED BY ARCHEOLOGISTS, IS THE MANNER IN WHICH THEY WERE CREATED.

Petroglyphs were pecked (scraped and ground) onto the surface of the rock. Usually the dark layer that covers the rock, called the patina or varnish, was broken away to allow the lighter unweathered rock to show through. Artists also used non-varnished rock, soft sedimentary rocks where elements were cut or incised. The reasons for selecting unvarnished rocks are unknown, but these types of petroglyphs are often found in association with rock shelters.

Pictographs, or paintings and drawings on rocks, are less common since these images have a greater likelihood of fading or weathering away. The paint used for pictographs consisted of pigment, a binder and a vehicle. The pigment was the paint's color. In the Southwest, red, white, orange and black are the most common colors, but other colors such as blue, green, purple and pink occasionally occur.

Unfortunately, no detailed studies of paint composition have taken place; indeed, few have been completed elsewhere. Consequently, the materials used for binding also are largely unknown. Without compositional studies the answers to these questions will remain a mystery.

Pictographs and petroglyphs are a fragile part of the past

and are easily damaged. Because we know very little about the composition of the paints, preservation is critical. The numbers of pictographs are decreasing each year, spurring the need for their study and conservation. To keep petroglyphs and pictographs pristine, please do not touch the rock art because contact with the oils in skin will damage them. Freely take photographs and make sketches, but rubbings are forbidden. Individuals witnessing vandalism are urged to report their observations to the BLM at the visitor center. Provide a description of the individuals and their license plate number, if possible. All of us share a concern for protecting these cultural resources, and we here in southern Nevada can be proud of having one of the most successful public programs for fostering the preservation of rock art sites.



Wild Horses and Burros

FOR MANY VISITORS, A TRIP TO RED ROCK CANYON IS A CHANCE TO SEE WILD BURROS AND WILD HORSES.

Wild horses primarily live south of State Route 160. The majority of burros live north of State Route 160. They are most often seen between Spring Mountain Ranch State Park and the community of Blue Diamond.

Feeding encourages these animals to congregate on roadways where many have been killed and injured by vehicles. Each year people are injured by burros as they try to feed or pet these animals. Feeding burros also causes them to lose their natural fear of roads and cars. Every year both burros and humans die from burro and automobile collisions due to this adaptation.

Wild horses and burros are protected by the Wild Free-Roaming Horses and Burros Act of 1971. People feeding, attempting to feed, riding, attempting to ride, handling, or otherwise harassing or disturbing wild horses or burros are subject to a citation.



TO OBSERVE THESE BEAUTIFUL WILD ANIMALS SAFELY:

- PICK A SAFE PLACE TO STOP AND PULL COMPLETELY OFF THE ROADWAY.
- OBSERVE THE WILD HORSES AND BURROS FROM A DISTANCE. THE SAFEST PLACE IS FROM YOUR CAR.
- DRIVE CAREFULLY AND BE CAUTIOUS WHEN YOU SEE ANIMALS ON OR NEAR THE ROAD. THEY MAY STEP OUT IN FRONT OF YOUR CAR UNEXPECTEDLY.
- REFRAIN FROM THE TEMPTATION TO FEED OR WATER THESE HARDY DESERT CREATURES.
- IF YOU HAVE FOOD IN AN OPEN CONTAINER, SEAL IT IF A HORSE OR BURRO APPROACHES YOU.



Red Rock Canyon
Contact Information

www.nv.blm.gov/redrockcanyon

Emergency or Fire
[702] 293-8932 or 911

BLM Southern Nevada District Office
[702] 515-5000

Red Rock Visitor Center
[702] 515-5350

Climbing Permits
[702] 515-5050

Gift & Book Store
[702] 515-5379

Friends of Red Rock Canyon
[702] 515-5360

Red Rock Canyon Interpretive Association
Organized Hikes
[702] 515-5367

This publication was made available through a partnership with Bureau of Land Management, Friends of Red Rock Canyon and Red Rock Canyon Interpretive Association.

BLM/NV/EA/GI-10/01+1793

Photo: Sheep Together (Ovis canadensis)
by Lois Dohra

Hiking Map



- Restrooms
- Parking Area
- Wheelchair Access
- Picnic Area

Hike Ratings

Ratings are based on the general ability of a person who hikes frequently. Your ability may differ from the ratings standard used at Red Rock Canyon. Your ability may also be affected by weather, the condition and steepness of the trail, having enough water and physical condition on a given day, among other things.



Moderate



Moderate-Strenuous



Strenuous

Strenuous:

Generally, lots of uphill sections (and later downhill); possibly more than 1,000 feet of elevation gain; double digit mileage and/or difficult terrain and rock scrambling.

Moderate:

Uphill sections include up to 1,000 feet of elevation gain; single digit mileage; uneven terrain and some rock scrambling.

Easy:

Like a walk in the city, but on uneven terrain. (Not guaranteed to seem easy if you are not used to trail hiking.)

Combinations:

Listed as easy-moderate, moderate-strenuous and so on.